

LOCKHEED AIRCRAFT CORP.		ENGINEERING STUDY <input checked="" type="checkbox"/>		LAC -160						
DATE 5 NOVEMBER 1963		AFFECTS: WSPO <input checked="" type="checkbox"/>		PROJECT <input checked="" type="checkbox"/>						
NAME OF MAJOR COMPONENT		PART OR LOWEST SUBASSEMBLY		PART NO. & MODEL OR TYPE						
TITLE OF PROPOSAL : IMPROVED NAVIGATION CAPABILITY - FLIGHT TEST EVALUATION										
NATURE OF PROPOSAL :  SEE PAGE 2										
REASON FOR PROPOSAL :  SEE PAGE 2										
ES	ESTIMATED COST AND TIME INVOLVED : ADDITIONAL FUNDING REQUIRED :									
CP	ESTIMATED COST FOR KITS OR PARTS : SEE PAGE 4 ADDITIONAL FUNDING REQUIRED : NONE (SP-1923)									
ITEMS AFFECTED BY PROPOSAL :										
SAFETY	MISSION EFFECTIVENESS	PERFORMANCE	OPERATING PROCEDURE	INTER- CHANGE- ABILITY	WEIGHT OR WEIGHT & BALANCE	TOOLS & SUPPORT EQUIPMENT	MAINTENANCE PROCEDURE	SERVICE LIFE	FLIGHT MANUAL	MAINTENANCE MANUAL
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN FIELD										
SOURCE OF PARTS FOR KIT LAC				AVAILABILITY - WEEKS AFTER APPROVAL SEE LAC-161 PART B						
DISPOSITION OF SPARES AFFECTED N/A				Concur for STAT OD/OSA 15 NOV 63						
INITIATED BY : CUSTOMER				APPROVED : 15 NOV 63						

PURPOSE:

To evaluate the AN/ASN-39 Automatic Dead Reckoning Navigation Computer System in the aircraft.

NATURE:

In conjunction with part B of ECP-161 (Flight Control System Evaluation), the AN/ASN-39 System will be installed using the Bendix compass system and obtaining true air speed from the Minneapolis Honeywell Air Data Computer.

The AN/ASN-39 system continually computes and/or displays, on the computer control and course indicator, the following information during flight:

- |           |   |
|-----------|---|
| Computer  | 1. Latitude and longitude of aircraft present position. |
| Control   | 2. Latitude and longitude of target or destination.     |
|           | 3. Magnetic variation (inserted).                       |
|           | 4. Wind direction and velocity (inserted).              |
| Bearing   | 5. Earth great circle distance from aircraft present    |
| Distance  | position to selected target, destination or base.       |
| Heading   | 6. Earth great circle bearing (course angle) to         |
| Indicator | present target, destination or base.                    |

The course indicator selected for use with ECP LAC-161 will be compatible with this system.

Wind direction, wind velocity, and magnetic variation are manually inserted on the Computer Control. The mode selector on the Computer Control permits storing two fixed latitude and longitude coordinates, normally, the target position and the base or starting position, but new coordinates may be added by employing a "leap frog" technique in setting each additional set of coordinates by switching into the "STANDBY" mode. This also permits updating present position periodically from visual fixes or from celestial fixes.

This system is dependent on availability of a true air speed input which can be supplied by the ADC unit in part B of ECP LAC-161, but is not available from part A. If LAC-161 part A is subsequently selected, a new source for True Air Speed must be developed. If the L.S.I. Auto Pilot with ASN-39 Nav. System is the desired configuration, a new source of true air speed should be available prior to production installation.

Upon successful completion of evaluation tests, a separate ECP for incorporation of the system will be issued.

ECP LAC-160  
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ESTIMATED COST FOR KITS OR PARTS (SP-1923)

1. Fab. Assem. and Install\* \$8,500

\*Engineering and Flight Test Support to be  
accomplished with Part B of ECP LAC-161  
M-H Prototype Autopilot.

Note: Bendix AN/ASN-39 Navigation System on  
loan at no charge (Incl. Flight Test  
Support.